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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,404	06/21/2002	Manfred Ruoff	R 37014	4972

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EXAMINER

RIVELL, JOHN A

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 08/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/089,404

Applicant(s)

RUOFF ET AL.

Examiner

John Rivell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/1/05 (RCE).
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-36 is/are rejected.
- 7) ☒ Claim(s) 25-36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 June 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 20, 2005 has been entered.

Claims 1-12 have been canceled. Claims 13-36 remain pending.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 25-36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The amendment to claim 25 adds the recitation "at least one fuel cell" to the previous version of the claim. Accordingly, the scope of claim 25 now includes "at least one fuel cell" and "consumers". That is, the scope of the claim now encompasses two separate entities namely, the "at least one fuel cell" and a separate "consumers" entity.

Upon review of the application as originally filed it appears that the "consumers" as recited in claims 25-36 are in fact the fluid circuits of the fuel cell. For example, as disclosed on page 8 of the specification, it is set forth at lines 16-19 and the remainder

of the specification concerning figures 2 and 3, that the pumping circuits of figures 2 and 3 are used as supply circuits for the individual fluid supplies making up the fuel cell, i.e. the fuel circuit "A" and the water circuit "B". It is presumed that the pumping arrangement may also supply the air circuit "C" but, as claimed, it is difficult to envision an air flow "free of possible air pockets" as recited.

As such it would appear that the "consumers" are in fact a portion of, if not all of, the "fuel cell". Claim language encompassing supply to "consumers" as well as a separate "fuel cell" does not appear to have basis in the application as originally filed.

If however, the claim were amended to incorporate the consumers and the fuel cell in the manner disclosed then there would appear to be allowable subject matter.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 13, 14, 19, 23 and 25 are rejected under 35 U.S.C. §102 (b) as being anticipated by Feild.

The recitation "for supplying fluid media to consumers of a fuel cell system including the fuel cells thereof and fuel conversion units" is a statement of intended use bearing no patentable weight.

The patent to Feild discloses "an arrangement... supplying fluid media to consumers... comprising: a feed pump unit; (read at the combination of low pressure pump 12 and high pressure pump 30); a controllable metering valve (read at any one of

valves 42 connected to high pressure outlet conduit 36) interposed between said feed pump and said consumers (at A-I, A-II, A-III, etc.); feed pump unit including a high-pressure feed pump (30) and a low-pressure feed pump (12) for feeding (via connecting conduit 16, 22, 28) said high-pressure pump thereby ensuring that said media is free of possible air pockets” as recited in claim 13.

Regarding claim 14, in Feild, “a portion of said consumers (at A-I, A-II, A-III, etc.) consume the same medium; and, wherein said arrangement further comprises a plurality of said controllable metering valves (42) connected downstream of said feed pump and operatively connected to respective ones of the consumers of said portion of said consumers” as recited.

Regarding claim 19, in Feild, “means for controlling the volume flow of said media” is read at needle valves 96.

Regarding claim 23, Field discloses “a supply tank (10) holding at least one of said media; a bypass line connected between said supply tank and said feed pump unit; and, a pressure controller connected in said bypass line” at either pressure regulator 18 or 32.

Regarding claim 24, in Feild, “said pressure controller (at 18 or 23) is controllable” as recited.

Regarding applicants remarks filed in the response of May 25, 2005 concerning the above, the arguments presented in this response are directed to claim 25 and the amendment adding the recitation of “at least one fuel cell”. In claims 13-24, no positive recitation of a fuel cell exists. In fact the only recitation concerning a “fuel cell” lies in

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the preamble of claim 13 which, upon review, is considered to be a statement of intended use bearing no patentable weight. No further recitation in any of claims 14-24 refers back to or draws like and/or breadth from any recited element in the intended use clause in the preamble of claim 13.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 15-18, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feild in view of King et al.

The patent to Feild discloses all the claimed features with the exception of having the metering valve at valve 42 operating as a pulse width modulating valve, responsive to line sensed conditions and comparing sensed conditions to a "characteristic field" (e.g. lookup table) to generate correcting valve operating signals in a type of closed loop control scheme.

The patent to King et al. discloses that it is known in the art to employ a controlled valve at 10, operative by a pulse width modulating signal (column 5, lines 43-50) generated by a controller in response to the comparison of line sensed pressure conditions at pressure gauges 70, 71 and stored values of pressure in a "lookup table"

(column 6, lines 36-4) for the purpose of precisely controlling the valve and thus the flow of fluid controlled thereby.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Feild a pulse width modulating operative valve responsive to signals generated by a controller in response to the comparison of line sensed pressure conditions sensed by pressure gauges upstream and downstream of the controlled valve and stored values of pressure in a lookup table for the purpose of precisely controlling the valve and thus the flow of fluid controlled thereby as recognized by King et al.

Regarding claim 17, the specific operating condition of a pulse width modulating valve of "greater than 10Hz" is considered to be an obvious design expedient related to the desired operating conditions rather than solving any particular problem nor providing any new and/or unexpected results.

Claims 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Feild in view of Reiser.

The patent to Feild discloses all the claimed features with the exception of having the feed pump speed controlled.

The patent to Reiser discloses that it is known in the art to employ a variable speed pump 34, in which the speed of the pump 34 is controlled in response to sensed pressure conditions in the conduit the pump operates in for the purpose of controlling the flow of fluid in the conduit.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Feild a variable speed pump controlled by a controller in response to sensed pressure conditions in the conduit the pump operates for the purpose of controlling the flow of fluid in the conduit as recognized by Reiser.

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Regarding the above, applicant relies on the statements of intended use of the claims as distinguishing claimed features. As noted above concerning the rejections under 35 USC §102(b) the statements of intended use bear no patentable weight in this instance.

Claims 25-36 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Rivell whose telephone number is (571) 272-4918. The examiner can normally be reached on Mon.-Thur. from 6:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene can be reached on (571) 272-4930. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John Rivell
Primary Examiner
Art Unit 3753

j.r.